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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,627	09/26/2003	Shyh-Chin Huang	124455-1	2541

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GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
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NISKAYUNA, NY 12309

EXAMINER
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ALEXANDER, MICHAEL P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/673,627

Applicant(s)

HUANG ET AL.

Examiner

Michael P. Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-14 and 16-31 is/are pending in the application.
- 4a) Of the above claim(s) 19-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Claim(s) 1-7, 9-14 and 16-31 is/are pending.

#### ***Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on 13 June 2006 is acknowledged. The traversal is on the ground(s) that:

First, applicant argues that the method inventions of Groups II and III are part of a single inventive concept. In response, the Examiner notes that the instant application is not a 35 USC 371 national stage application, and therefore the single inventive concept standard does not apply.

Second, applicant argues that Groups II and III can be searched and examined without undue burden. In response, the Examiner notes that separate classification of the Groups was shown, which is evidence for establishing of serious burden. See MPEP 808.02. Applicant argues that serious burden is lacking because Groups II and III both include the same nickel/palladium alloys. In response, the Examiner notes that the claimed composition has already been shown to lack novelty, therefore examination would require a search and examination of the known composition used in a method of joining and a search and examination of the known composition used in a method of filling a cavity, which have separate classifications.

Third, applicant argues that the composition of Group I cannot be used in a materially different process because a method of joining and a method of filling are not materially different processes. In response, the Examiner notes that the two processes are separately classified, which is evidence that they are materially different processes.

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Additionally, the composition could be used in a variety of other processes, such as soldering or casting.

Fourth, applicant argues that the products of Groups IV and V do not have materially different designs. In response, the Examiner notes that methods of joining and the method of filling are separately classified, which is evidence of materially different designs.

Fifth, applicant argues that Groups I and IV (as well as I and V) are not related as intermediate and final products because each article includes the presence of the braze material and nothing has been transformed from an intermediate stage to a final stage. The Examiner disagrees and asserts that the braze composition would lose its identity (i.e. transform) because of the diffusion that occurs between the braze composition and the joined parts or filled part.

The requirement is still deemed proper and is therefore made FINAL.

Claims 19-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 13 June 2006.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3, 5-7, 9-14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Simkovich et al. (US 6,177,046).

Regarding claims 1-3, Simkovich teaches (Table 3) a nickel-based composition, comprising: 18.4 atom % palladium; 0.05 atom % total of boron (i.e. about 0.1 atom %); and a total amount of aluminum and chromium of 24.5 atom %; with the balance comprising nickel. The Examiner considers the term "brazed" in the preamble to be a statement of intended use and will be given no patentable weight. See MPEP 2111.02 II.

Regarding claims 5-7, Simkovich teaches (Table 3) further comprising tantalum, titanium and zirconium in a total amount of 4.97 atom %.

Regarding claim 9, Simkovich teaches (Table 3) that the amount of aluminum would be 7.1 atom %.

Regarding claim 10, Simkovich teaches (Table 3) that the total amount of chromium would be 17.4 atom % (i.e. about 15 atom %).

Regarding claims 11-12, Simkovich teaches (Table 3) further comprising 8.21 atom % of cobalt.

Regarding claims 13-14, Simkovich teaches (table 3) further comprising carbon, molybdenum and tungsten each present at a level no greater than 3 atom %.

Regarding claim 16, the Examiner asserts that the alloy of Simkovich would inherently have a braze liquidus of no greater than about 1230 degrees C because Simkovich teaches substantially the same composition as that of the claimed invention. See MPEP 2112.01 I.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5-7, 9-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashko et al. (SU 529,924).

Claims 1-3, 5-7, 9-14 and 16-18 are rejected on the same grounds as stated in the Office Action of 10 February 2006. With respect to the amended feature, Lashko teaches (page 7) that the alloy would contain 3.6-7.6 wt% chromium and 2.3-4.8 wt% aluminum which meets the amended feature of the claims.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huscke (US 3,089,769).

Regarding claims 1-4, Huscke teaches (see alloys 61-62 and 69-70 in Table III) nickel-based braze compositions, comprising: ranges of palladium, boron, silicon, aluminum and chromium, which overlap with the claimed ranges, which is prima facie

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evidence of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to select the desired amounts of each of the elements from the ranges disclosed by Hushke because Hushke teaches the same utility throughout the disclosed ranges.

### ***Response to Arguments***

Applicant's arguments with respect to the rejection based on Hushke have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to the rejection based on Lashko have been fully considered but they are not persuasive.

First, applicant states that "(o)n page 3 of the translation, the composition is described as containing..." In response, the Examiner notes that the referred to composition is in the background section of Lashko and is not the inventive composition of Lashko, which was referred to by the Examiner. Applicant's reference to the composition on page 3 is irrelevant to the grounds of rejection.

Second, applicant states that Lashko contemplates alloy with very high levels of chromium. The Examiner disagrees, the inventive composition of Lashko teaches (page 7) 3.6 – 7.6 wt% chromium, which overlaps with or lies within the claimed range of chromium.

Third, applicant argues that Lashko teaches that the level of palladium is very high. The Examiner disagrees. Lashko teaches (page 7) 20-55 wt% palladium, which overlaps with the claimed range of palladium.

Fourth, applicant admits overlap of the alloy of Lashko with the claimed invention, but argues that overlap does not establish a prima facie case of obviousness in this instance. The Examiner disagrees. See MPEP 2144.05 I. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). The applicant has provided no convincing reason why this case law should not be followed.

Fifth, applicant argues that Lashko does not contemplate alloys suitable for the high-strength, high-temperature environment in which nickel and cobalt superalloy operate. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., suitability for the high-strength, high-temperature environment) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Sixth, applicant argues that Lashko does not suggest the possibility of allowing substantial amounts of tantalum, titanium and zirconium as in claims 5-7 and 16. The Examiner disagrees. Lashko clearly does. See page 7.

Seventh, applicant argues that Lashko fails to suggest the problem of having significant amounts of boron and silicon in the braze composition, or the benefit and utility of restricting the levels of such elements. In response, the Examiner notes the clear fact that Lashko teaches (page 7) an nickel-based braze composition having the



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claimed amounts of boron and silicon. Whether Lashko suggests the problem of having significant amounts of boron and silicon or the benefits of restriction the levels of boron and silicon is not an issue that needs to be determined for proper examination of the claims.

Eighth, applicant argues that the composition of Lashko would not have the liquidus temperature of claim 16. In response, see MPEP 2112.01 I. PRODUCT AND APPARATUS CLAIMS — WHEN THE STRUCTURE RECITED IN THE REFERENCE IS SUBSTANTIALLY IDENTICAL TO THAT OF THE CLAIMS, CLAIMED PROPERTIES OR FUNCTIONS ARE PRESUMED TO BE INHERENT. Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 562 F.2d at 1255, 195 USPQ at 433. The applicant has presented no such evidence.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 10:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700